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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,634	09/12/2003	Markku A. Oksanen	4208-4146	6966

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EXAMINER	
JAIN, RAJ K	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/660,634	OKSANEN ET AL.	
	Examiner	Art Unit	
	Raj K. Jain	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 9/11/03, 3/14/07, 1/20/06, 8/25/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 18 and 21 are objected to because of the following informalities: The labeling of the lettering sequence is incorrect. Appropriate correction is required.

Claims 22 is objected to because of the following informalities: The use of "other low power communication means" in line 3 does not limit the scope of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 16, 25 and 25 are rejected under 35 U.S.C..112, first paragraph, as failing to comply with the enablement requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 2 and 16, the claims in particular recite here in part;

".....no unnecessary overhead is transmitted.....".

It is not clear from the specifications what is being claimed here, applicant is advised to reword the claim to make appropriate correction and thus limit the scope of the claim.

Regarding claims 25 and 26, claim 25 recites "heavy error coding", and claim 26 recites "simple error check", while the specification discloses "heavy error coding", however it is not clear to what is being defined as "heavy error coding". With respect to "simple error check" the specification explicitly fails to disclose "simple error check". One skilled in the art would not be able to reasonable understand and make and/or use the invention based on the disclosure for "heavy error coding" and "simple error check". Appropriate correction is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 17, the phrase "such as" in line 2 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3, 14, and 19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims recite a series of steps or an apparatus with no practical application or useful tangible result. Appropriate correction is required.

Claims 2, 4-9, 15-17, 21 and 22 are also rejected due to their dependence from a rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 14-17 rejected under 35 U.S.C. 102(e) as being clearly anticipated by Miao (USP 7,046,716 B1) because the invention was described in a patented or published application for patent by another filed in the United States before the invention thereof by the applicant for patent.

Regarding claims 1 and 14, Miao discloses A method of ultra-fast downloading of data in a mobile environment (see abstract), comprising:

a) a) installing a first wireless low-power communication link between first and second terminals (see Fig. 1, 6, col 4 lines 52-67);

b) installing a second significantly faster wireless communication link between the terminals for data transfer (see abstract, Figs. 1, 6 col 4 lines 52-67); and

c) controlling the second wireless communication link via the first wireless communication link to keep payload data transfer rate of the second wireless

communication link optimized, wherein the first wireless communication link frees the second wireless communication link from link control overhead (see Fig. 2, col 5 lines 12-35).

Regarding claims 2 and 16, Miao discloses no unnecessary overhead is transmitted through the second wireless communication link and there is no change in the direction of the data transfer flow of a receiver side eliminating sending acknowledgements to a transmitter side (see Figs. 1, 6 and abstract, col 4 line 53- col 5 line 10.).

Regarding claim 15, Miao discloses a second radio link serves as a direct data channel for actual data payload (see Fig.1, 6, abstract).

Regarding claim 17, Miao discloses a direct data channel eliminates time-consuming adjustments, such as, transceiver/receiver switching where possible loss of data occurs (see Figs 1, 6, abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims XXX are rejected under 35 U.S.C. 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello et al (USP 7,088,795 B1).

Regarding claims 3, 4, 10, 19 and 23, Miao discloses a method and apparatus of duplex communication in a mobile environment (see abstract and Fig. 1), comprising:

establishing a base device including an integrated memory and a base UWB transmitter and receiver (see Fig. 1, 6 which establishes a base device 122);

initiating a low power communication connection between the mobile device and the base device (see Fig. 1, 6 low power communication between 114 UWB to 122, see col 3 lines 17-20.);

activating the mobile device UWB transmitter for transmitting data as modulated pulse trains to the base device receiver (see Fig.1, col 4 lines 53-67, the mobile device 114 transmits digital data pulses to the network 122, one skilled in the art appreciates that UWB is a wireless technology that broadcasts digital pulses that are timed very precisely across a very wide spectrum.);

f) demodulating the mobile device UWB transmitter pulse trains in the base device UWB receiver (Fig. 1, 10, 122 demodulates the pulse trains according to I/Q demodulation reference 1030.);

g) transmitting from the base device UWB transmitter to the mobile device UWB receiver, modulated pulse trains of the base device UWB transmitter interleaved between the modulated pulse trains of the mobile device UWB transmitter (see Figs. 1 and 2, col 5 lines 12-40, the block interleaver 214 is used to interleave modulated pulse trains of the base device and mobile device before being transmitted by the base device.); and

h) demodulating the modulated pulse trains of the base device UWB transmitter in the mobile device UWB receiver (see Figs 1 and 2, the multi-carrier 114 demodulates the incoming base device UWB signal, see col 4 lines 55-67.).

Miao fails to disclose a memory stick and exchanging of UWB parameters between devices via the low power communication.

Aiello discloses a memory and other memory devices which can include a memory stick and exchanging of UWB parameters between devices via the low power communication (see Figs. 1, 3, col 10 lines 39-45, col 3 lines 58-67.).

A memory storage device and the capability to exchange UWB parameters allows for networking devices to negotiate appropriate operating parameter and therefore increasing the pulse frequency between the devices. A memory device allows for increased storage of parameters and other data as necessary outside of the networking components. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Aiello within Miao so to improve and enhance UWB network performance by increasing the transmission and storage capabilities of devices as desired.

Regarding claim 11, examiner takes official notice that UWB communications can be performed via short range devices such as Bluetooth devices offering fast and reliable communications amongst a plurality of devices and therefore one can easily incorporate Bluetooth devices within Maio to provide fast short range communications amongst plurality of devices acting as master and slave.

Regarding claims 12, 13 and 18, Aiello discloses a memory stick and exchanging of UWB parameters between devices via the low power communication (see Figs. 1, 3, col 10 lines 39-45, col 3 lines 58-67.) again combining with Maio is same as above for claim 10.

Regarding claims 21, Aiello discloses various visual display circuitries (see col 4 line 58 – col 5 line 14.). The use of display circuitries allows for users of receiving devices to accept, alter, modify etc the data as desires and appropriate. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Aiello within Maio so as to enhance network capabilities for the user by visually viewing the data and either accepting, or modifying the data as desired.

Regarding claims 24, Aiello discloses pulse repetition rate (see col 7 lines 58-67, claim 1.) A UWB pulse repetition frequency module controls the frequency at which the plurality of UWB pulses are generated by a pulse generation module. Pulse repetition frequency, is defined to avoid significant energy overlap between adjacent pulses. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Aiello within Maio so as to avoid significant energy overlap between adjacent pulses.

Regarding claims 25 and 26, Maio discloses error checking which may incorporate heavy error coding and simple error check (see col 3 lines 15-16).

Regarding claim 27, Maio discloses short range low power communications (see abstract).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello et al (USP 7,088,795 B1), further in view of Woolgar et al (US 7135985 B2).

Miao and Aiello fail to disclose Bluetooth, Irda, Hiperlan, Zigbee.

Woolgarv discloses Bluetooth, Irda, Hiperlan, Zigbee (see col 3 lines 1-20). UWB use in Bluetooth, Irda, Hiperlan, Zigbee, 802.11, WLAN allows for adapting to differences in various radio protocols to be utilized via the UWB technology and therefore it would have been obvious to incorporate the teachings of Woolgrav within Miao and Aiello so as to broaden the spectrum of UWB use in different protocol groups.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello et al (USP 7,088,795 B1), further in view of Salokannel et al. (US 20050058107 A1).

Miao and Aiello fail to disclose an acknowledgment from the mobile device before each UWB transmission.

Salokannel discloses an acknowledgment from the mobile device before each UWB transmission (see para 17 and 23). ARQ acknowledgements as described within Salokannel improve data throughput when performing error control in Ultra Wideband (UWB). Thus it would have been obvious at the time the invention was made to incorporate the teachings of Salokannel within Miao and Aiello so as to improve data throughput when performing error control in an UWB system.

Regarding claim 6, Aiello discloses pulse repetition rate (see col 7 lines 58-67, claim 1.) A UWB pulse repetition frequency module controls the frequency at which the plurality of UWB pulses are generated by a pulse generation module. Pulse repetition frequency, is defined to avoid significant energy overlap between adjacent pulses. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Aiello within Maio so as to avoid significant energy overlap between adjacent pulses.

Regarding claim 7, Aiello discloses a memory and other memory devices which can include a memory stick and exchanging of UWB parameters between devices via the low power communication (see Figs. 1, 3, col 10 lines 39-45, col 3 lines 58-67.).

A memory storage device and the capability to exchange UWB parameters allows for networking devices to negotiate appropriate operating parameter and therefore increasing the pulse frequency between the devices. A memory device allows for increased storage of parameters and other data as necessary outside of the networking components. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Aiello within Miao so to improve and enhance UWB network performance by increasing the transmission and storage capabilities of devices as desired.

Regarding claims 8, and 9, Maio discloses error checking which may incorporate heavy error coding and simple error check (see col 3 lines 15-16).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj K. Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raj K. Jain

Art Unit 2616

April 13, 2007